

IN THE CLAIMS

1. - 39. (Cancelled)

40. (Currently Amended) A method of manufacturing an electron-emitting device ~~having a plurality of carbon fibers and first and second electrodes disposed on a substrate~~, comprising the steps of:

providing ~~[[the]]~~ a substrate on which ~~[[the]]~~ a first electrode and ~~[[the]]~~ a second electrode are disposed; and

arranging ~~[[the]]~~ a plurality of carbon fibers on the first electrode,

wherein each carbon fiber has a plurality of graphenes stacked in a direction different from a direction perpendicular with respect to an axis direction of each carbon fiber.

41. (Previously Presented) The method according to claim 40, wherein the providing step includes processes of:

arranging a plurality of catalyst particles so as to be connected to the first electrode; and

growing the plurality of carbon fibers by a reaction between the plurality of catalyst particles and a gas containing carbon.

42. (Previously Presented) The method according to claim 41, wherein the catalyst particles contain a material selected from the group consisting of Pd, Ni, Fe and Co.

43. (Previously Presented) The method according to claim 40, wherein at least one or more of the carbon fibers are formed to have ends apart from a surface of the second electrode.

44. (Previously Presented) A method of manufacturing an electron source having a plurality of electron-emitting devices, each manufactured according to the method of claim 40.

45. (Previously Presented) A method of manufacturing an image forming apparatus comprising a substrate having a third electrode and a phosphor, and an electron source disposed in opposition to and spaced from the substrate, wherein the electron source is manufactured according to the method of claim 44.

46. (Currently Amended) A method of manufacturing an electron-emitting device ~~having a plurality of carbon fibers and first and second electrodes disposed on a substrate~~, comprising the steps of:

providing ~~[[the]]~~ a substrate on which ~~[[the]]~~ a first electrode and ~~[[the]]~~ a second electrode are disposed; and

arranging ~~[[the]]~~ a plurality of carbon fibers on the first electrode,

wherein each carbon fiber comprises a plurality of stacked graphenes intersecting with an axis of the carbon fiber.

47. (Previously Presented) The method according to claim 46, wherein the providing step includes processes of:

arranging a plurality of catalyst particles so as to be connected to the first electrode; and

growing the plurality of carbon fibers by a reaction between the plurality of catalyst particles and a gas containing carbon.

48. (Previously Presented) The method according to claim 47, wherein the catalyst particles contain a material selected from the group consisting of Pd, Ni, Fe and Co.

49. (Previously Presented) The method according to claim 46, wherein at least one or more of the carbon fibers are formed to have ends apart from a surface of the second electrode.

50. (Previously Presented) A method of manufacturing an electron source having a plurality of electron-emitting devices, each manufactured according to the method of claim 46.

51. (Previously Presented) A method of manufacturing an image forming apparatus comprising a substrate having a third electrode and a phosphor, and an electron source disposed in opposition to and spaced from the substrate, wherein the electron source is manufactured according to the method of claim 50.

52. (Currently Amended) A method of manufacturing an electron-emitting device ~~having a plurality of carbon fibers and first and second electrodes disposed on a substrate~~, comprising the steps of:

providing ~~[[the]]~~ a substrate on which ~~[[the]]~~ a first electrode and ~~[[the]]~~ a second electrode are disposed; and

arranging ~~[[the]]~~ a plurality of carbon fibers on the first electrode,

wherein each carbon fiber has a plurality of graphenes, and the graphenes are stacked along an axis direction of the carbon fiber.

53. (Previously Presented) The method according to claim 52, wherein the providing step includes processes of:

arranging a plurality of catalyst particles so as to be connected to the first electrode; and

growing the plurality of carbon fibers by a reaction between the plurality of catalyst particles and a gas containing carbon.

54. (Previously Presented) The method according to claim 53, wherein the catalyst particles contain a material selected from the group consisting of Pd, Ni, Fe and Co.

55. (Currently Amended) The method according to claim 52, wherein at least one or more of the carbon fibers are formed to have ends apart from a surface of the second electrode.

56. (Previously Presented) A method of manufacturing an electron source having a plurality of electron-emitting devices, each manufactured according to the method of claim 52.

57. (Previously Presented) A method of manufacturing an image forming apparatus comprising a substrate having a third electrode and a phosphor, and an electron source disposed in opposition to and spaced from the substrate, wherein the electron source is manufactured according to the method of claim 56.

58. (Previously Presented) A method of manufacturing an electron-emitting device, comprising the steps of:

providing a first electrode disposed on a substrate;

arranging a second electrode on the substrate; and

arranging a plurality of carbon fibers on the first electrode,

wherein each carbon fiber comprises a plurality of graphenes which are stacked so as not to be parallel to an axis direction of the fiber.

59. (Previously Presented) A method of manufacturing an electron source having a plurality of electron-emitting devices, each manufactured according to the method of claim 58.

60. (Previously Presented) A method of manufacturing an image forming apparatus comprising a substrate having a third electrode and a phosphor, and an electron source disposed in opposition to and spaced from the substrate, wherein the electron source is manufactured according to the method of claim 59.